REMARKS

Claims 1, 3-6, 8-18, 21-32, 34-41, 43-50, 52-56 and 58-64 are pending and at issue in the application with claims 1, 17, 29, 38 and 49 being independent claims. No claims have been amended, added or canceled. Reconsideration and withdrawal of the rejections in view of the remarks below is respectfully requested.

Claims 1, 3-6, 8-18, 21-32, 34-41, 43-50 and 52-57 are rejected as unpatentable over Liebowitz et al. (U.S. Patent No. 5,812,545) in view of Toporek et al. (U.S. Patent No. 6,460,085). The applicants respectfully traverse the rejections in view of the amendments above and the remarks below.

Each of independent claims 1, 17, 29, 38 and 49 recites a method or a system using a plurality of communication connections to distribute data based on a parameter to worker objects to transmit data through a communication link having a bandwidth. (See e.g., applicants' specification, pages 6 and 7). A plurality of worker objects (or worker processes) are used to form messages from distributed data based on a parameter from that worker object. (See e.g., applicants' specification, pages 6 and 7). The worker object delivers these formed messages to underlying layers of communication connections to allocate a predetermined portion of the bandwidth. (See e.g., applicants' specification, pages 6 and 7). One of the problems that may be overcome by the recited method and apparatus is the limited amount of bandwidth in the communication link to send data. The recited method and apparatus increase the throughput in the communication link and reduce the average data transfer delay of the communication link when the communication connections send data through the communication link. (See e.g., applicants' specification, pages 6 and 7).

Generally, Liebowitz et al. provides a full mesh connectivity, both fixed and dynamic bandwidth allocation, voice, video and data integration, support for frame relay and voice, support for protocols such as broadcast and multicast transmission capability, while being relatively less expensive than other fully meshed satellite communication systems. (See e.g.,

column 2, lines 20-27). The action asserts that column 17, lines 10-26 and 44-57 of Liebowitz et al. discloses the recited worker objects (or processes) "as fragmentation protocol and burst plan, as well as PVC, port and 64 kbps CBR service, 32 kbps CBR service" (See action, pages 21 and 22). As such, in order for the combination of Liebowitz et al. and Toporek et al. to disclose the features of claims 1, 3-6, 8-18, 21-32, 34-41, 43-50, 52-56 and 58-64, the "fragmentation protocol and burst plan, as well as PVC, port and 64 kbps CBR service, 32 kbps CBR service" must inelude the same features as the reeited worker objects (or processes), and must be utilized in the same manner as the reeited worker objects (or processes). If the "fragmentation protocol and burst plan, as well as PVC, port and 64 kbps CBR service, 32 kbps CBR service" does not, then the combination of Liebowitz et al. and Toporek et al. cannot disclose the claimed method and apparatus.

Given this requirement, the "fragmentation protocol and burst plan, as well as PVC, port and 64 kbps CBR service, 32 kbps CBR service" must, among other things, disclose "a first worker object [having] a first parameter value configured to establish a first respective predetermined portion of the bandwidth and a second worker object [having] a second parameter value configured to establish a second respective predetermined portion of the bandwidth which is different from the first respective predetermined portion of the bandwidth" such that "the messages formed within each worker object [are delivered] to an underlying layer of the plurality of communication connections so that each communication connection uses no more than the respective predetermined portion of the bandwidth." In other words, the "fragmentation protocol and burst plan, as well as PVC, port and 64 kbps CBR service, 32 kbps CBR service" must correspond to a plurality of worker objects (or processes) for each one of the plurality of communication connections in the communication link.

The action's citations to Liebowitz et al. as disclosing the recited worker objects (or processes) read:

> Each terminal 12 in the system 10 employs the fragmentation protocol and burst plan described above, as well as the PVC, port and terminal CIRs, to control the access of user access devices 42

> to the satellite link 16. For example, three users 174, 176 and 178 in FIG. 8 can purchase 64 kbps CBR service, 32 kbps CBR service and 32 kbps CBR service, respectively. The users can be connected to three respective terminal ports 180, 182 and 184 using, for example, 256 kbps physical links. The terminal CIR for the terminal can be 128 kbps for illustrative purposes. The PCD 52 in the terminal 12 controls the access of these users to the satellite link 16 via their respective ports. If the user 174 needs additional bandwidth beyond its 64 kbps CIR, the terminal 12 can allow the user 174 to transmit bursts at 128 kbps because of its ability to ensure that the other input generators (i.e., users 176 and 178) do not transmit bursts at the same time.
>
> ...
>
> As stated previously, CIR service guarantees a user a fixed data rate to transmit information via a terminal 12 over the satellite link 16 at all times. The CIR can be allocated to the terminal 12 itself, to the port 40 to which the user access device 42 is connected, or to the PVC the user uses to communicate with the terminal 12. The user pays a CIR service fee based on the data rate. An EIR service can be purchased to obtain additional bandwidth to transmit traffic in excess of the CIR, subject to the availability of bandwidth within the system 10 as determined by the burst plan. Excess traffic is billed by the number of excess traffic bytes transmitted, in addition to the CIR service fee. The definition of excess traffic can be set as a system parameter, identifying the time frame over which the EIR measurement is made.

With additional reference to Figs. 3 and 8, it can be readily understood that multiple users 174, 176, 178 may connect to the terminal 12 via the terminal ports 40 (see Fig. 3), which include the terminal ports 180, 182, 184 (which has two associated PVCs) (see Fig. 8). Each user is assigned a constant bit rate (CBR) service (e.g., 64 kbps, 32 kbps, 32 kbps) and connected to a respective terminal port 180, 182 or 184. If a user requires more bandwidth, the user 174 is assigned additional terminal ports when other users 176, 178 do not transmit. That is, the users do not share bandwidth in those instances. As shown in Fig. 3, these services and ports are provided at the front end between the users 174, 176, 178 and the terminal 12 to control access, not on the back end between the terminal 12 and the satellite 14 in the satellite link 16. As such, the PVC, ports and CBR services all correspond to the communication link between the terminal 12 and the users 174, 176, 178, and not the link 16 with the satellite 14. That is, the "PVC, port

and 64 kbps CBR service, 32 kbps CBR service" do not correspond each one of a plurality of communication connections in the satellite link 16.

To the extent the aetion relies upon the satellite link 16 between the terminal 12 and the satellite 14 (and associated bandwidth) of Liebowitz et al. as corresponding to the recited communication link (and associated bandwidth), the asserted worker objects (or processes) and uses thereof must relate to one of the plurality of communication connections the satellite link 16. That is, to the extent the action relies upon the PVC, ports and CBR services of Liebowitz et al. as eorresponding to the recited worker objects (or processes), the PVC, ports and/or CBR services must each include a parameter value to establish a respective and different predetermined portion of the satellite link 16 bandwidth, such that messages may be delivered so that each communieation connection in the satellite link 16 uses no more than the respective predetermined portion of the bandwidth of the satellite link 16. However, as shown above, the PVC, ports and/or CBR services correspond to the link between the terminal 12 and the users 174, 176, 178, and not the link 16 between the terminal 12 and the satellite 14. Accordingly, the PVC, port and 64 kbps CBR service, 32 kbps CBR service do not correspond to a plurality of worker objects (or processes) for each one of the plurality of communication conneetions.

To the extent the action relies upon the "fragmentation protocol and burst plan" as corresponding to the recited worker objects (or processes), it is clear that in Liebowitz et al. each terminal 12 clearly employs only ***one*** fragmentation protocol and burst plan ***for all*** communication connections collectively, and Liebowitz et al. is silent on the issue of multiple fragmentation protocols and burst plans. (See e.g., column 17, lines 10-15). Accordingly, the "fragmentation protocol and burst plan" cannot correspond to a ***plurality*** of worker objects (or processes) ***for each one*** of the plurality of communication connections.

The action also asserts that forming messages using the distributed data within each work object (or process) is disclosed by Liebowitz et al. as "collection of fragments called the payload" as, and that a parameter of the worker object is disclosed as "payload header which identifies the location of each fragment". (See 05/08/2009 action, page 23). This assertion is

incorrect because Liebowitz et al. fails to disclose forming messages using the distributed data within each work object (or process). First, Liebowitz et al. discloses breaking each frame into smaller data segments or fragments but fails to disclose forming messages based on a parameter to establish a respective predetermined portion of the bandwidth. (See column 4, lines 57-63). Second, Liebowitz et al. discloses identifying the location of each fragment within the payload header but fails to disclose the manner to form messages based on a parameter to establish a predetermined portion of the bandwidth recited by the claims. (See column 4, lines 57-63). The purpose of identifying the fragments is to assemble the proper fragments at the receiving end and thereby not to establish a predetermined portion of the bandwidth. (See column 4, lines 57-63).

Further, the action asserts that Liebowitz et al. discloses delivering the messages formed within each worker object (or process) as "creating an outgoing data queue corresponding to each user access device for storing data received therefrom via a corresponding Frame Handler module" and also asserts that this discloses a plurality of worker processes. (See action, pages 22-23). This assertion is incorrect because Liebowitz et al. fails to disclose the manner in which the Frame Handler creates an outgoing queue based on a parameter to establish a predetermined portion of the bandwidth to deliver formed messages. The Fragment Assembler/Disassembler (FAD) does not create an outgoing data queue based on any parameters from the Frame Handlers but the outgoing data queue is actually addressed to user access devices connected to that terminal. (See column 4, lines 45-50). Therefore, Liebowitz et al. fails to disclose delivering formed messages within each worker object.

In addition to not disclosing the worker object (or worker processes) as recited in claims 1, 3-6, 8-18, 21-32, 34-41, 43-50, 52-56 and 58-64, it would not be obvious to one of ordinary skill in the art to combine the disclosures of Liebowitz et al. in the view of Toporek et al. In particular, the action alleges that Toporek et al. discloses "providing an underlying layer of the plurality of communication connections so that each communication connection uses no more than a predetermined portion of the bandwidth as 'the information goes through the transport layer (e.g. TCP) and then through the IP layer which is the networking layer...'" (See e.g., action, pages 5 and 23). However, the FAD in Liebowitz et al. ***adds*** to each collection of

fragments a payload header containing the location of each fragment, a corresponding fragment identifier and bandwidth requests for transmission along with the Transport and IP layers' control information. (Seecolumn 4, lines 51-63). This additional header and control information ***increases*** the size of each message and thereby ***decreases the throughput*** of the system. Where the asserted rationale for combining the references is to use no more than a predetermined portion of bandwidth, such a combination would appear to defeat this purpose by adding a payload header that increases the size of each message, thereby necessitating ***more*** bandwidth.

It is clear that in order for a claim to be rendered *prima facie* unpatentable, "[all] words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). See MPEP 2143.03. As required by the Supreme Court in *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385 (2007) (*KSR*), the differences between the claimed invention and the prior art must still be ascertained, and both the invention and the prior art references must be considered as a whole. See also *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985), MPEP 706.02(j) and MPEP 2141. There is a further requirement that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). This requirement was upheld by the Supreme Court in *KSR* (see 82 USPQ2d at 1396). (See also MPEP 2142). In short, when formulating an obviousness rejection based upon a combination of prior art elements, it remains necessary to identify where each of the claim features are disclosed in the prior art and to identify a reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed. See *KSR* 82 USPQ2d at 1397. If all claims limitations are not disclosed, if the resulting combination do not result in the invention in the manner claimed and/or if one or ordinary skill in the art would not look to combine the references, then the rejection must be withdrawn. The combination of Liebowitz et al. and Toporek et al. fails to disclose the recited worker object (or process) and associated features in the manner claimed. Further, one of ordinary skill in the art would not look to combine or modify Liebowitz et al. and Toporek et al.

under the rationale provided in the action. As a consequence, the current rejections must be withdrawn.

Conclusion

Five (5) independent claims remain in the application as previously paid for, and forty-nine (49) total claims remain in the application as previously paid for. This response is being timely filed with a two-month extension of time and fee. The applicants believe no additional fee is due. However, the Commissioner is hereby authorized to charge any deficiency in the amount enclosed or any additional fees which may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 13-2855. Should the examiner wish to discuss the foregoing, or any matter of form, in an effort to advance this application towards allowance, the examiner is urged to telephone the undersigned at the indicated number.

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Respectfully submitted,

By_____

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